

Exponents and Monomials

Simplify.

1. $x^2 \cdot x^4$ _____
2. $a^3(a^2)(a^4)$ _____
3. $y(y^5)(y^2)$ _____
4. $n^2(n)(n^7)$ _____
5. $\frac{m^4}{m^3}$ _____
6. $\frac{c^3}{c^3}$ _____
7. $(y^4)^2$ _____
8. $(d^2)^7$ _____
9. $(2n)^3$ _____
10. $(-3z)^2$ _____
11. $(5rs)^2$ _____
12. $\left(\frac{a}{2}\right)^4$ _____
13. $\left(\frac{3n}{2}\right)^2$ _____
14. $\left(\frac{2y}{3}\right)^4$ _____
15. $(c^3d^4)^2$ _____
16. $(3xy^2)^4$ _____
17. $(-5cd^2)(4cd)$ _____
18. $(x^2y)(-7x^3y)$ _____
19. $\frac{y^5}{y}$ _____
20. $(x^3)^6$ _____
21. $\left(\frac{3t}{4}\right)^3$ _____

Give the degree and the coefficient of each monomial.

22. $5z^4$ _____
23. $-xy$ _____
24. 1.4 _____
25. $\sqrt{2}mn^5$ _____

Simplify.

26. $\frac{1}{2}a^2 \cdot \frac{1}{3}a$ _____
27. $\frac{7}{5}n \cdot \frac{n}{3}$ _____
28. $(-2m^3n^2)^3(n^2)^5$ _____
29. $\left(\frac{3}{5}xy^2\right)\left(\frac{5}{6}xy^4\right)$ _____
30. $\left(\frac{2a^2b}{3}\right)^4$ _____
31. $\left(\frac{7xy^5}{11}\right)^2$ _____
32. $(-0.2r^3s^3)(10rs^2)^2$ _____
33. $\left(\frac{3c^3d^4}{5}\right)^3$ _____

MIXED PRACTICE

Name the coefficient, base, and exponent of each monomial.

34. $4d^3$ _____
35. $-7n$ _____
36. c^4 _____
37. $-0.9y^7$ _____

Simplify.

38. $a^5 \cdot a$ _____
39. $(c^3)^5$ _____
40. $\left(\frac{z}{2}\right)^4$ _____
41. $(rs^2)^3$ _____